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**Notice of Allowability**

Application No.

10/004,413

Examiner

Taylor Victor Oh

Applicant(s)

BOAZ ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/19/03.
2. ☒ The allowed claim(s) is/are 22-35 as renumbered as claims 1-14.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☒ Certified copies of the priority documents have been received in Application No. 09/288,642.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### Examiner's Amendment and Reasons of Allowance

I. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with an attorney of record, Mr. Jeffrey Townes on 2/20/2004 .

II. The application has been amended as follows:

In the line 8 on page 5 of the specification, the phrase "-- a C<sub>4</sub>-C<sub>10</sub> aryl or heteroaryl --" before the word "an ether" has been deleted and replaced with the phrase "a C<sub>6</sub>-C<sub>10</sub> aryl or C<sub>4</sub>-C<sub>10</sub> heteroaryl" .

In the line 3 on page 10 of the specification, the phrase "-- a C<sub>4</sub>-C<sub>10</sub> aryl or heteroaryl group--" before the word "containing" has been deleted and replaced with the phrase "a C<sub>6</sub>-C<sub>10</sub> aryl or C<sub>4</sub>-C<sub>10</sub> heteroaryl group" .

In claim 25, line 5 on page 3 (CLMSPTO on 12/19/03):

the phrase "-- a C<sub>4</sub>-C<sub>10</sub> aryl or heteroaryl group before the word "an ether" has been deleted and replaced with "a C<sub>6</sub>-C<sub>10</sub> aryl or C<sub>4</sub>-C<sub>10</sub> heteroaryl group" .

In claim 30, line 3 on page 4 (CLMSPTO on 12/19/03):

the phrase "-- a C<sub>4</sub>-C<sub>10</sub> aryl or heteroaryl group before the word "and " has been deleted and replaced with "a C<sub>6</sub>-C<sub>10</sub> aryl or C<sub>4</sub>-C<sub>10</sub> heteroaryl group" .

In claim 33, line 4 on page 5 (CLMSPTO on 12/19/03):

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the phrase "-- a C<sub>4</sub>-C<sub>10</sub> aryl or heteroaryl group before the word " an ether " has been deleted and replaced with "a C<sub>6</sub>-C<sub>10</sub> aryl or C<sub>4</sub>-C<sub>10</sub> heteroaryl group" .

III. The following is an examiner's statement of reasons for allowance:

- The rejection of Claims 22, 29, 31 and 35 under 35 USC 112, first paragraph, has been withdrawn due to applicants' convincing argument in the amendment.
- The rejection of Claims 24-25, 30, 31 and 33 under 35 USC 112, second paragraph, has been withdrawn due to applicants' convincing argument and amendment in the response.
- The close prior art to the current invention are Heck (U.S. 3,988,358) , Suto et al (U.S. 5,296,601) , and Wehrenberg (U.S. 4,704,467)

Heck teaches a process of producing carboxylic acid esters by reacting aryl, heterocyclic, or benzylic halides or various substituted derivatives including a nitro group, an alkyl, or substituted halogen groups with carbon monoxide and an alcohol, such as

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methanol, ethanol, propanol, and etc. in the presence of a homogeneous palladium catalyst and a tertiary amine.

Suto et al teaches a process of producing carboxylic acid esters by reacting an organic chloride represented by  $R^1Cl_m$ , where  $R^1$  is a substituted or unsubstituted aromatic or heterocyclic hydrocarbon group and  $m$  is an integer of 1 or more, with  $R^4OH$ , where  $R^4$  is a substituted or unsubstituted aliphatic, aromatic or heterocyclic hydrocarbon group, carbon monoxide in the presence of a homogeneous catalyst containing palladium compound, such as metallic palladium, palladium carbon and a phosphine compound catalyst and a tertiary amine.

Wehrenberg teaches a method of preparing mercaptobenzoates by reacting nitro-substituted aromatic carboxylic acid ester with a mercaptan ( $R-SH$ ) (see from col. 1 line 55 to col. 2, line 14) in the presence of an inorganic base, such as potassium carbonate or sodium carbonate and non-polar aprotic solvents, such as benzene, tetrahydrofuran, diethyl ether, and a phase transfer catalyst including tetra-lower alkyl substituted ammonium and phosphonium halides.

The instant invention, however, differs from the prior art in that the claimed metal catalyst is the heterogeneous catalyst of palladium metal deposited on activated carbon; none of them teach the use of the heterogeneous catalyst of palladium metal deposited on activated carbon; furthermore, Wehrenberg does not teach the following elements of Applicants claimed process: the intermediate reactions, carbon monoxide, alcohol, proton acceptor, and a heterogeneous catalyst of palladium metal on carbon,

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thereby failing to cure the deficiencies of Heck and Suto. In addition, unless all limitations of the claims are met, there is no prior art rejection. See In re Zurko 59 USPQ 2d 1690 (Fed Cir. 1991) and In re Lee, 61 USPQ 1430 (Fed Cir. 1991).

Therefore, the claimed invention would not have been obvious to the person with an ordinary skill in the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning the communication after allowance such as sending all post-allowance correspondence should be directed to " Box Issue Fee" or faxed directly to PUBS at 703-305-8755. This will expedite the process of these papers.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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*Myth*  
2/20/04

*Bernard Dentz*

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